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REPORT OF SEVEN CASES OF TETANY.*

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TETANY is a disease quite common in some parts of Europe, but rare in this country. Osler, in his text-book, states that in the discussion of a case presented by Dr. Stewart at the Association of American Physicians at Washington, 1889, Dr. Weir Mitchell had seen but two cases and Dr. Pepper but one, and that in a child.

The disease is characterized by tonic spasms affecting the extremities. The ætiology is in doubt. Von Jaksch, who has described an epidemic among young men of the working classes, in some cases accompanied with slight fever, regards the disease as infectious; this form is acute and rarely fatal. It often accompanies rickets, chronic diarrhœas, the acute fevers, and lactation, and Trousseau has called it nurses' contracture. It has occurred in cases after the removal of the thyroid gland, and in dilatation of the stomach, particularly after lavage. In fact, the nature of the disease is unknown, but it probably depends upon the action of some toxic agent on the motor cells.

Symptoms.—In some cases there is fever; it has been

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reported as high as 104° F., but in mild cases the symptoms are chiefly those of tonic spasm of the extremities. The hand is drawn into a position suitable for holding a pen. Trousseau has described it as the "accoucheur hand." It is best understood if you remember the muscles supplied by the ulnar in the hand—namely, the interossei, two of the lumbricales, muscles of the little finger, and the adductor and part of the flexor brevis pollicis. Consequently you get flexion of the metacarpo-phalangeal joints and extension of the second and third phalanges; the inner side of the hand is drawn inward; the thumb is strongly adducted and flexed. The wrist is flexed, also the elbow, and the arms are drawn toward the chest. In the lower extremities the toes are flexed and the feet are in the position of talipes equinus. Rarely it extends to the muscles of the face and trunk. These contractions are intermittent or more or less persistent. Pressure on nerves produces the spasms, and there is increased electrical reaction of the muscles.

The diagnosis of the case is quite easy; it must be distinguished from hysteria and from trismus. The former is unilateral, while tetany is bilateral. In trismus the jaw is first affected, while in tetany it begins in the extremities. For treatment, bromides, baths, massage, and electricity have been used.

For the cases I have to report I am indebted to Dr. Ginnasi, physician to the afternoon Italian class of the New York Dispensary. Five of these cases occurred in one family, and it may be of interest if I describe briefly the place in which they lived:

It was a rear house, never receiving direct sunlight; four steps below the ground; ceiling about six feet and a half high; room eight by ten feet, with two small windows; in the rear, another room, five by eight feet, having no win-

dows. On the other side were two similar rooms—and in this place lived two families of twelve persons.

CASE I.—V. M., aged thirty-five years, female, nursing child five months old. Three months ago began to have formications in feet, extending up the back, neck, and head, and then into the hands. In about a week she began to have contractions, limited to the upper extremities. She had some pain in the abdomen and constipation. The contractions would last about an hour, and occurred three or four times daily. This continued up to a few days ago, when she came to the dispensary. The position of the upper extremities was exactly as described. We put a pen in her hand and she would hold it indefinitely, and was not able to relax her grip. Eight grains of quinine, three times a day, were given, and the contractions were relieved in eighteen hours, but the muscles felt sore and painful. In a week from the last visit the patient returned to the dispensary with a relapse, but the contractions were not as typical or as persistent. The feet were slightly affected, which interfered with walking. On the following day Dr. Walter Vought and I made careful tests of the electrical reactions of the muscles. They were all increased in both cathodal closing and anodal opening. In some cases the smallest amount of current that we could measure—namely, an eighth of a milliampère—was sufficient to produce distinct muscular contraction. In all cases the reaction occurred with half the amount of current required in a normal subject; also the anodal opening was greater than the anodal closing contraction.

CASE II.—M., aged fourteen years, daughter of V. M. Menstruation just established. She began to have contractions two weeks later than her mother, preceded by formications; were less severe, but more continuous, relaxation only occurring once or twice a week, when the patient could move her fingers for about two hours; then the contractions would recur. Position of hands and arms typical.

CASE III.—M. M., girl, aged three years. Began to have cramps in the upper extremities at the same time as her mother, but spasms have occurred only twice a week.

CASE IV.—N. M., aged twelve years. Has menstruated. Two months ago she began, as the others, with formications, cramps in stomach, and constipation; contractions in her case were very continuous. Position of upper extremities typical. Pressure on brachial plexus increased the contractions. Four grains of quinine, three times a day, were given; contractions disappeared in a few days. She complains of soreness in the muscles and pain in her tongue and left eye.

CASE V.—Aged thirty-three years, married, nursing a child two months old. Lives in opposite basement. Three weeks ago she began to feel formications in her feet, extending up the back to the head and then in the arms. Contractions began two days ago, when I saw her at the dispensary. Pressure on brachial plexus increased the contractions. Eight grains of quinine, three times a day, were prescribed. After sixteen grains had been taken the contractions ceased and have not returned. Pressure on the brachial plexus causes a feeling of formication in the arm. Both in this case and in Case IV the temperature was 100° F.

CASE VI.—Teresa, aged twenty-five years, married, two children, youngest eleven months old, nursing. Lives in a dark, damp basement. The patient is anæmic and poorly nourished; looks very sick. Temperature, 104° F. Pulse, 108. Spleen slightly enlarged. Three days ago she began to have formications, beginning in the feet and extending as the others. Began four days ago to have contractions in the hands and came to the dispensary. Position not quite typical; could move the fingers. Pressure on the brachial plexus increased the spasms, which were more like the others. The following day I saw her at her home, and contractions had ceased after quinine. Temperature, 101° F.; pulse, 100. Pressure on brachial plexus caused pain.

CASE VII.—Vincento. Reported to me by Dr. Ginnasi. Works on docks. Had typical spasms in both hands and feet.

Besides these cases reported, quite a number have been treated in the New York Dispensary in the morning Italian

class. It has seemed to me that such a rare disease ought to be reported, and I wish to call attention to these facts: That five in one family suffered with the disease; that three cases were in nursing women, two in girls who had just begun to menstruate, one in a rickety child, and one in a male adult working in a damp place, and all of these subjected to the worst possible hygienic surroundings. Then there was the rapid disappearance of the symptoms under the influence of quinine, the use of which is not mentioned in the text-books. All these facts, I think, point toward the infectious character of the disease.

